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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/881,564	06/14/2001	Kazuyoshi Takeda	9319S-000231	5854

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EXAMINER

PROCTOR, JASON SCOTT

ART UNIT PAPER NUMBER

2123

DATE MAILED: 12/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/881,564

Applicant(s)

TAKEDA, KAZUYOSHI

Examiner

Jason Proctor

Art Unit

2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/5/2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-6 have been submitted for examination.
2. Claims 1-6 have been rejected.
3. The Examiner acknowledges Applicant's request for the examination status of this pending application, received November 23, 2004. In light of this action, no further action is deemed necessary.

Priority

4. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which have been placed of record in the file.

Specification

5. A substitute specification in proper idiomatic English and in compliance with 37 CFR 1.52(a) and (b) is required. The substitute specification filed must be accompanied by a statement that it contains no new matter.
6. Examples of the improper English include "In this embodiment, the automatic evaluation system is formed as an automatic evaluation system in which an automatic evaluation program is loaded into a personal computer through a storage medium storing the automatic evaluation program, and the operations of the automatic evaluation program are executed in the personal computer to carry out an automatic evaluation," (page 9, line 27 – page 10, line 3), "Further, in the case where the output

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screen of the LCD of the installation device of the microcomputer is changed in response to one input event, the number of times corresponding to the number of states of the output screen to be renewed is used as input event data," (page 12, lines 18-22), and "In order to solve the above problem, an automatic evaluation system is an automatic evaluation system for automatically evaluating a program operating on a target system by referring to an output screen as a result of a simulation corresponding to an arbitrary input event, which comprises output screen reference means for, while the simulation is being performed, referring to the output screen by the number of times corresponding to the number of states of the output screen on which the input event is reflected and which is renewed, and evaluation means for successively comparing the reference result with reference data corresponding to the number of times which is prepared in advance so that the automatic evaluation is carried out," (page 5, lines 12-23).

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 1-6 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-11 of copending Application No. 09/881,195. Although the conflicting claims are not identical, they are not patentably distinct from each other because the different mechanisms for solving the problem of, for example, a blinking cursor, would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention. The primary difference between the claimed inventions is that the invention of the instant application maps a single simulation result to multiple reference results while the invention of the copending application maps multiple simulation results to a single reference result. It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to take the teachings of the copending application and construct the analogous solution of the instant application by adapting the invention to support the necessary data and altering the comparison step. The broader structure of the automatic evaluation system is the same in both applications.

9. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 101

10. 35 U.S.C. § 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

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Claims 1-6 are rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter. MPEP 2106(II)(A) recites:

The claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." State Street, 149 F.3d at 1373, 47 USPQ2d at 1601-02. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of "real world" value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (Brenner v. Manson, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96); In re Ziegler, 992, F.2d 1197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993)). Accordingly, a complete disclosure should contain some indication of the practical application for the claimed invention, i.e., why the applicant believes the claimed invention is useful.

11. Independent claims 1, 3, and 5 recite a method, system, and a storage medium, respectively, none of which have a useful, concrete, and tangible result. All three claims recite a limitation such as "comparing the reference result with reference data corresponding to the number of times which is prepared in advance so that an automatic evaluation is carried out" but are silent as to the desired result of the comparison or whether there is some response to the result of the comparison. None of claims 2, 4, and 6 include limitations which grant a useful, concrete, and tangible result to the claimed inventions.

12. To expedite a complete examination of the instant application the claims rejected under 35 U.S.C. § 101 (nonstatutory) above are further rejected as set forth below in anticipation of applicant amending these claims to place them within the four statutory categories of invention.

Claim Rejections - 35 USC § 112

13. The following is a quotation of the second paragraph of 35 U.S.C. § 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

14. Claims 1-6 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

15. Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term “simulation” in claims 1, 3, 4, 5, and “simulator” in claim 6 is used by the claim to mean “a program operating on a target system”, while the accepted meaning is “the imitation of the operation of real-world processes over time” (See Banks). The term is indefinite because the specification does not clearly redefine the term.

16. Regarding claim 1, the phrase “making reference to the output screen by a number of times corresponding to a number of states of the output screen on which the input event is reflected and which is renewed” renders the claim vague and indefinite. It is unclear what is meant by “making reference [...] by a number of times”. It is unclear whether the input event or the output screen is referred to by the clause “which is renewed”. In general, it is unknown whether this limitation means “making a number of references to the output screen, the number of references being equal to the number of

states of the output screen expected to result from the input event” or some other meaning.

17. Further regarding claim 1, the phrase “successively comparing the reference result with reference data corresponding to the number of times which is prepared in advance so that an automatic evaluation is carried out” renders the claim vague and indefinite. It is unclear what is meant by “reference data corresponding to the number of times which is prepared in advance”. It is unclear whether this limitation is meant to define “an automatic evaluation” or whether this phrase represents an additional limitation.

18. Regarding claim 2, the phrase “the number of times is set together with data of the input event” renders the claim vague and indefinite. Several interpretations exist for this phrase, including “the number of times [something occurs] is stored alongside data of the input event” or “the number of times [something should occur] is assigned at the same time as data of the input event”. It is unknown what is meant by “the number of times” or to what this term refers.

19. Regarding claim 3, the phrase “referring to the output screen by a number of times corresponding to a number of states of the output screen on which the input event is reflected and which is renewed” renders the claim vague and indefinite. It is unclear what is meant by “making reference [...] by a number of times”. It is unclear whether the input event or the output screen is referred to by the clause “which is renewed”. In general, it is unknown whether this limitation means “making a number of references to

the output screen, the number of references corresponding to the number of states of the output screen expected to result from the input event” or some other meaning.

20. Further regarding claim 3, the phrase “evaluation means for successively comparing the reference result with reference data corresponding to the number of times which is prepared in advance so that an automatic evaluation is carried out” renders the claim vague and indefinite. It is unclear what is meant by “reference data corresponding to the number of times which is prepared in advance”. It is unclear whether this limitation is meant to define “an automatic evaluation” or whether this phrase represents an additional limitation.

21. Regarding claim 4, the phrase “a simulation unit which performs the simulation and reports a display rewriting completion event every time the output screen is renewed by the number of times” is vague and indefinite. It is unknown what “an output screen that is renewed by the number of times” means or how “a number of times” would renew an output screen.

22. Regarding claim 5, the preamble recites “the storage medium storing the automatic evaluation program comprising” and renders the claim vague and indefinite. It is unclear whether the storage medium or the automatic evaluation program comprises the recited limitations.

23. Regarding claim 5, the phrase “referring to the output screen by a number of times corresponding to a number of states of the output screen on which the input event is reflected and which is renewed” renders the claim vague and indefinite. It is unclear what is meant by “making reference [...] by a number of times”. It is unclear whether

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the input event or the output screen is referred to by the clause "which is renewed". In general, it is unknown whether this limitation means "making a number of references to the output screen, the number of references corresponding to the number of states of the output screen expected to result from the input event" or some other meaning.

24. Further regarding claim 5, the phrase "a step of carrying out an automatic evaluation by successively comparing the reference result with reference data corresponding to the number of times which is prepared in advance" renders the claim vague and indefinite. It is unclear what is meant by "reference data corresponding to the number of times which is prepared in advance". It is unclear whether this limitation is meant to define "an automatic evaluation" or whether this phrase represents an additional limitation.

25. Regarding claim 6, the phrase "repeating the automatic evaluation" renders the claim vague and indefinite in light of the ambiguity of claim 5 regarding the meaning of the term "automatic evaluation". It is unclear whether the phrase "repeating the automatic evaluation" means repeating the comparison step, repeating the step of transmitting the read input event and subsequent steps, or reading a next input event and continuing with subsequent steps.

Claim Interpretation

26. In the interest of compact prosecution, examiner makes the following claim interpretations in order to apply prior art to the claims. See *Ex parte Ionescu*, 222 USPQ 537 (Bd. Pat. App. & Inter. 1984).

27. In claims 1, 3, and 5, the term "simulation" is interpreted as "operation of the application under test". In claim 6, the term "simulator" is interpreted as "application under test". Interpretation of the term "simulation" in claim 4 is set forth below.

28. Regarding claim 1, the phrase "making reference to the output screen by a number of times corresponding to a number of states of the output screen on which the input event is reflected and which is renewed" is interpreted as "referring to the output screen, where the number of acceptable results is equal to the number of states of the output screen expected to result from the input event". The phrase "successively comparing the reference result with reference data corresponding to the number of times which is prepared in advance so that an automatic evaluation is carried out" is interpreted as "comparing the simulation result to the reference data which is prepared in advance to carry out an automatic evaluation".

29. Regarding claim 2, the phrase "the number of times is set together with data of the input event" is interpreted as "the number of times the output screen is to be referenced is stored alongside data of the input event".

30. Regarding claim 3, the phrase "referring to the output screen by a number of times corresponding to a number of states of the output screen on which the input event is reflected and which is renewed" is interpreted as "referring to the output screen, where the number of acceptable results is equal to the number of states of the output screen expected to result from the input event". The phrase "evaluation means for successively comparing the reference result with reference data corresponding to the number of times which is prepared in advance so that an automatic evaluation is carried

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out” is interpreted as “evaluation means for comparing the simulation result to the reference data which is prepared in advance to carry out an automatic evaluation”.

31. Regarding claim 4, the phrase “a simulation unit which performs the simulation and reports a display rewriting completion event every time the output screen is renewed by the number of times” is interpreted as “a application test unit that monitors the application under test and reports a display rewriting completion event every time the output screen is renewed”.

32. Regarding claim 5, the phrase “the storage medium storing the automatic evaluation program comprising” is interpreted as “the automatic evaluation program comprising”. The phrase “referring to the output screen by a number of times corresponding to a number of states of the output screen on which the input event is reflected and which is renewed” is interpreted as “referring to the output screen, where the number of acceptable results is equal to the number of states of the output screen expected to result from the input event”. The phrase “a step of carrying out an automatic evaluation by successively comparing the reference result with reference data corresponding to the number of times which is prepared in advance” is interpreted as “comparing the simulation result to the reference data which is prepared in advance”.

33. Regarding claim 6, the phrase “repeating the automatic evaluation” is interpreted as “reading a next input event and continuing with subsequent steps”.

Claim Rejections - 35 USC § 102

34. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

35. Claims 1-3 and 5 are rejected under 35 U.S.C. § 102(b) as being anticipated by Low et al. US Patent No. 5,218,611 hereafter referred to as Low.

36. Regarding claims 1 and 3, Low teaches a method and apparatus for testing software applications (column 4, lines 48-53) by referring to an output screen as a result of an input event (column 5, lines 45-60), comprising:

referring to the output screen, where the number of acceptable results is equal to the number of states of the output screen expected to result from the input event (column 7, lines 11-34; column 16, line 65 – column 17, line 6), and
comparing the simulation result to the reference data which is prepared in advance to carry out an automatic evaluation (column 5, lines 50-60).

37. Regarding the references to the output screen, Low teaches that in the exemplary case of a blinking cursor, a histogram is created to establish that there are two states to be considered definite and stores the screen output corresponding to those two states. Low therefore makes reference to the output screen when storing a screen signature for each acceptable state of the output screen.

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38. Regarding claim 2, Low teaches that the number of times the output screen is to be referenced is stored alongside data of the input event (column 16, line 65 – column 17, line 6).

39. Regarding claim 5, Low teaches a computer-implemented method and apparatus for testing software applications (column 4, lines 48-53) by referring to an output screen as a result of an input event (column 5, lines 45-60), comprising:

- a step of reading an input event and reference data prepared in advance for the input event (column 5, lines 6-9; column 5, lines 39-44);
- a step of transmitting the input event to cause execution of the application being tested (column 5, lines 45-60; column 6, lines 15-18);
- a step of performing the operation of the application being tested and referring to the output screen, where the number of acceptable results is equal to the number of states of the output screen expected to result from the input event (column 6, lines 18-25; column 5, lines 45-60; column 7, lines 11-34; column 16, line 65 – column 17, line 6).

Claim Rejections - 35 USC § 103

40. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

41. Claims 4 and 6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Low as applied to claims 3 and 5 above, respectively, and further in view of Triantafyllos et al. US Patent No. 5,233,611 hereafter referred to as Triantafyllos.

42. Regarding claim 4, Low does not teach a display rewriting completion event.

43. Triantafyllos teaches an automatic function testing system (column 3, lines 42-46) where input events are transmitted to the program being tested and the resulting display is analyzed to determine if the application is working properly (column 3, lines 62-67). Triantafyllos also teaches that functions which require sending or receiving information from the application under test communicate via shared memory while a communication program writes a "done" message to a semaphore (column 4, lines 52-61). Thus, upon receiving an input event, the invention taught by Triantafyllos executes the input event on the application under test, thereby updating the display, and writes a "done" message to the semaphore. This is interpreted as functionally equivalent to a "display rewriting completion event".

44. It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to combine the features of prior art to obtain the expected results as desired by the Applicant, such as the "done" message and semaphore taught by Triantafyllos with the method and apparatus for testing a software application taught by Low. Such an arrangement would combine the efficiency of Triantafyllos' screen capture methods with the structure of Low's apparatus. The combination could be achieved by incorporating the semaphore and "done" message into the DCLS module taught by Low (column 10, line 65 – column 11, lines 11).

45. Regarding claim 6, Low does not teach a display rewriting completion event.

46. Triantafyllos teaches an automatic function testing system (column 3, lines 42-46) where input events are transmitted to the program being tested and the resulting display is analyzed to determine if the application is working properly (column 3, lines 62-67). Triantafyllos also teaches that functions which require sending or receiving information from the application under test communicate via shared memory while a communication program writes a "done" message to a semaphore (column 4, lines 52-61). Thus, upon receiving an input event, the invention taught by Triantafyllos executes the input event on the application under test, thereby updating the display, and writes a "done" message to the semaphore. This is interpreted as functionally equivalent to a "display rewriting completion event".

47. It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to combine the features of prior art to obtain the expected results as desired by the Applicant, such as the "done" message and semaphore taught by Triantafyllos with the method and apparatus for testing a software application taught by Low. Such an arrangement would combine the efficiency of Triantafyllos' screen capture methods with the structure of Low's apparatus. The combination could be achieved by incorporating the semaphore and "done" message into the DCLS module taught by Low (column 10, line 65 – column 11, lines 11).

Conclusion

Art considered pertinent by the examiner but not applied has been cited on form PTO-892.

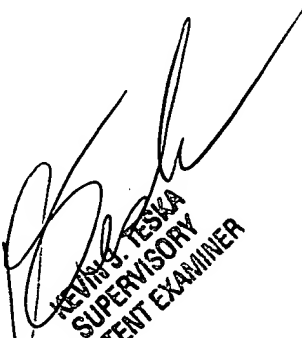
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Proctor whose telephone number is (571) 272-3713. The examiner can normally be reached on 8:30 am-4:30 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin J Teska can be reached on (571) 272-3716. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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Jason Proctor
Examiner
Art Unit 2123


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